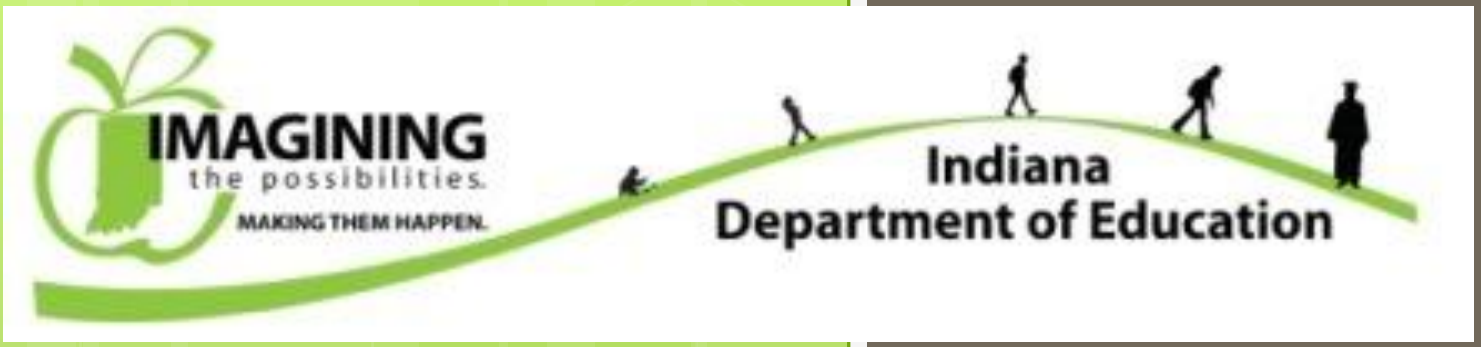


Process Standards for Mathematics

Indiana's Academic Standards

Sixth Grade: Ratios and Proportions

Agenda

1. Become familiar with the Process Standards for Mathematics.

2. Work the task.

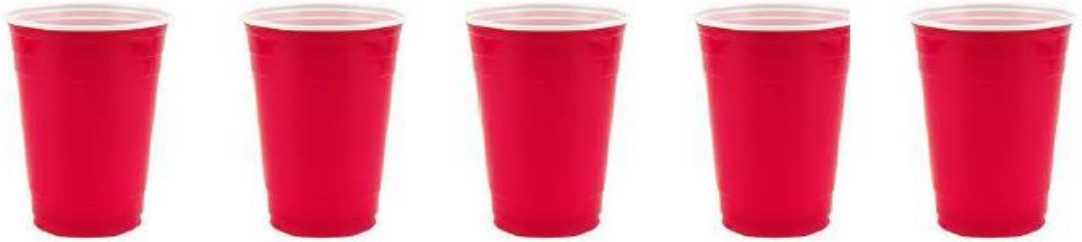
3. View the video.

4. Debrief the video.

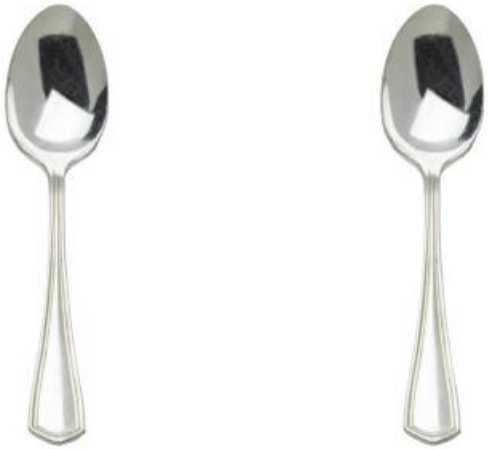
Become familiar with the Process Standards

- Read the brief descriptions of the 8 Process Standards for Mathematics (PS).
- Underline key words for each PS.
- In small groups, share your thoughts or questions about each PS. Be prepared to share your understanding of the PS with the rest of the participants.

Work the task, part 1

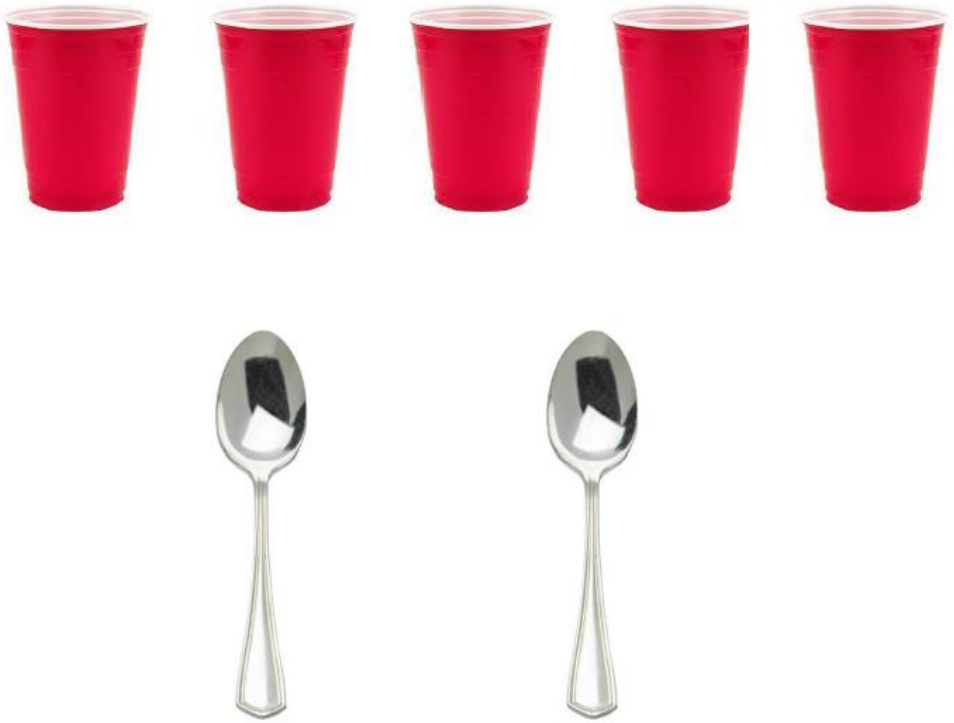


What can you tell from this picture about how we can make the lemonade?



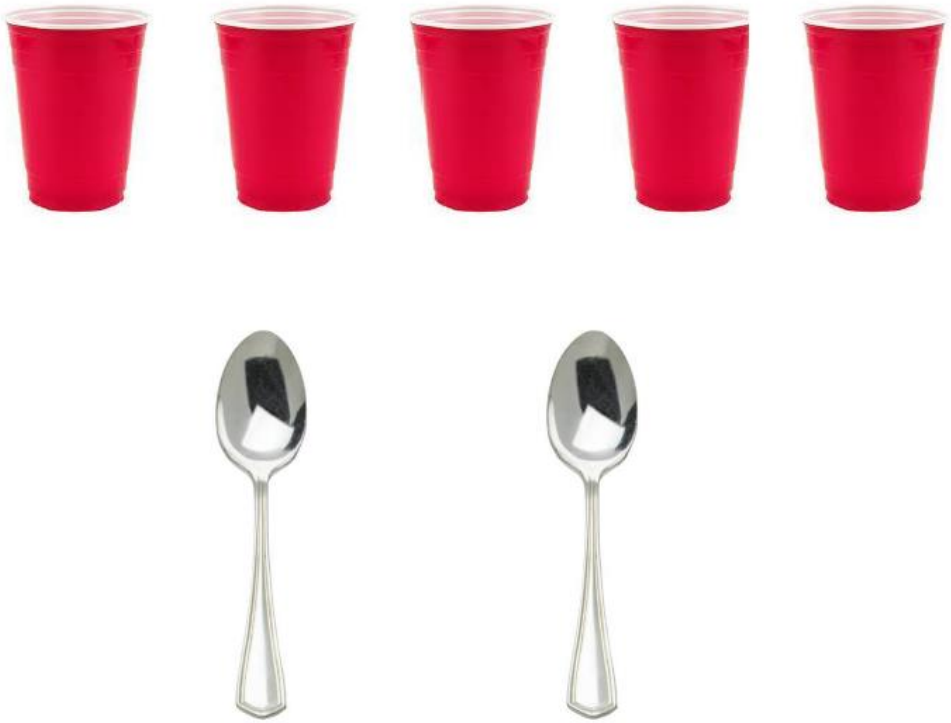
Work the task, part 2

How many tablespoons of mix would you need to make 100 cups of lemonade and how do you know?



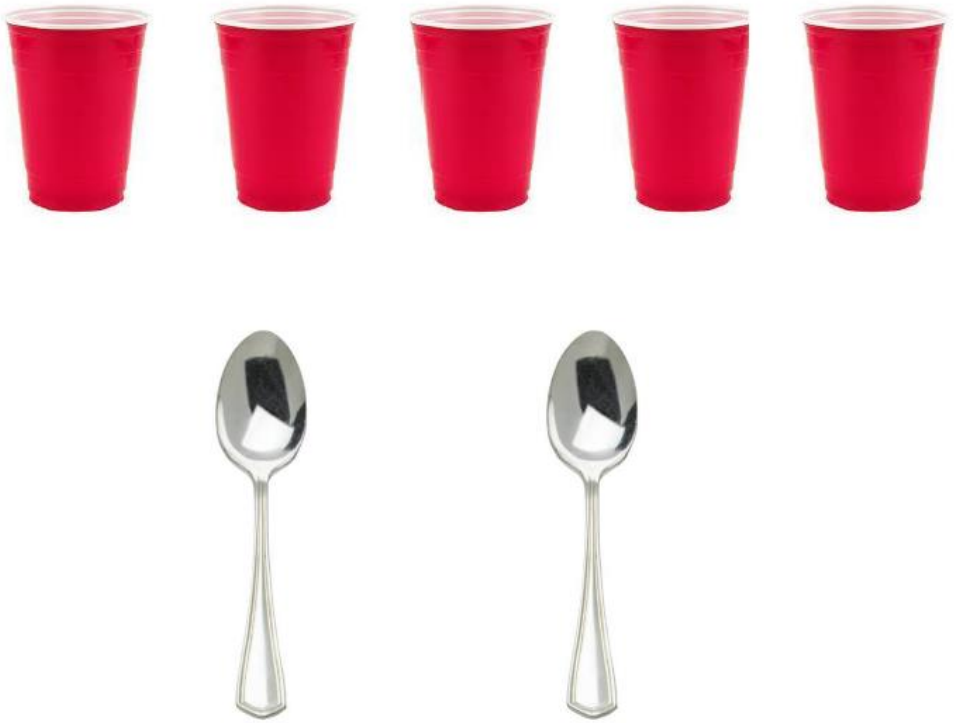
Work the task, part 3

Suppose you had 1 tablespoon of mix. How many cups of lemonade could you make? How do you know?



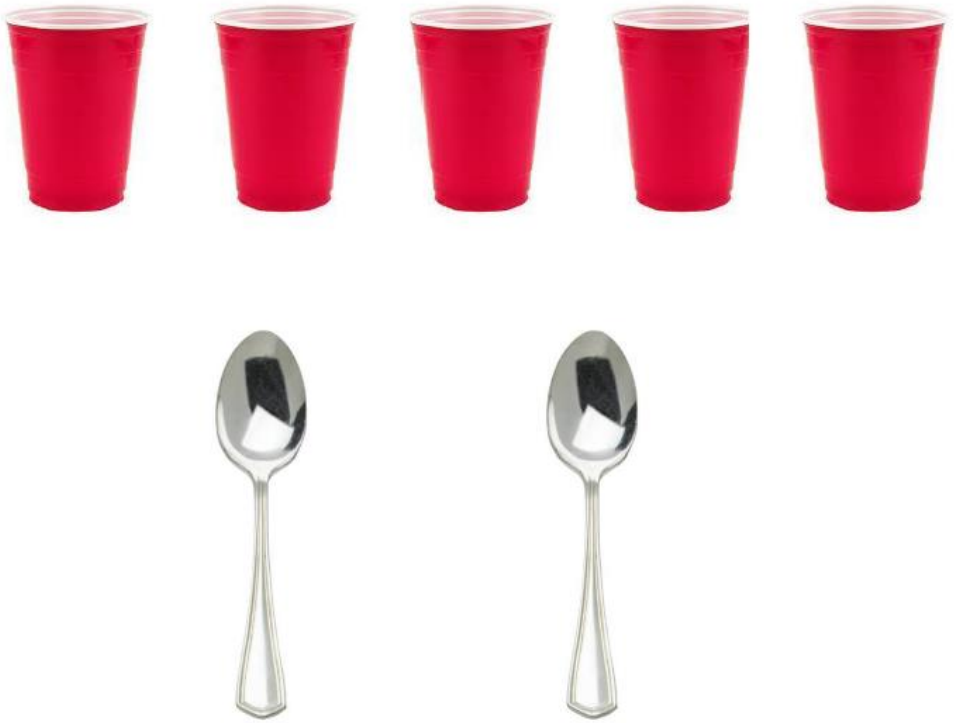
Work the task, part 4

What if you want to make only 1 cup of lemonade? How much mix would you need? How do you know?



Work the task, part 5

What if you need to make a cup for everyone in this room? How much mix would you need? How do you know?



Work the task, part 6

Below are two recipes for making lemonade. Recipe 1 calls for 2 tablespoons (tbsp.) of mix for each 5 cups of water. Recipe 2 calls for 4 tbsp. of mix for every 7 cups of water. Complete the table to determine the amount of mix and water for the given numbers of pitchers.

	Recipe 1		Recipe 2	
Pitchers	Lemonade mix (tbsp.)	water (cups)	Lemonade mix (tbsp.)	Water (cups)
1	2	5	4	7
2				
3				
4				
5				
6				
7				
8				
9				
10				

Fill out the rate table with calculations, then complete the graph to show the amount of mix for the two recipes.

IAS-M Connection

6.NS.8 Interpret, model, and use ratios to show the relative sizes of two quantities. Describe how a ratio shows the relationship between two quantities. Us the following notations: a/b, a to b, a:b.

6.NS.9 Understand the concept of a unit rate and use terms related to rate in the context of a ratio relationship.

6.NS.10 Use reasoning involving rates and ratios to model real-world and other mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations).

Expectations for Viewing the Video

- Assume there are many things you do not know about the classroom and the students.
- Assume good intent and expertise on part of the teacher.
- Keep focused on how the students are engaging in the task.

Adapted from *Classroom Discussions: Using Math Talk to Help Students Learn*, 2009, 2nd edition, p.156

View the Video

During the video, when you see the light bulb appear, it is an indication you should pay special attention to the students' and teacher's actions.

Record what you see happening on the Video Analysis Matrix.

Debrief the Video

- For each row on your Video Analysis Recording Sheet, discuss what you noticed while you watched the video in your small group.

- Then determine which PS you believe was best exhibited in the classroom during this time period.

Additional Questions

1. How does the task chosen by the teacher foster the Process Standards?

2. How does the teacher facilitate (prompt) the Process Standard in this video?

3. What type of classroom environment supports the Process Standards?